



Fuel Facts

National Biodiesel Board

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Promising Future for Mining Industry

Biodiesel may offer safe, practical applications in underground mining operations. Biodiesel is made from renewable fats and oils, such as vegetable oils, through a simple refining process. One of the main commodity sources for biodiesel is soybeans, a major crop produced by almost 400,000 farmers in 29 states.

- **Biodiesel is safer to use than petroleum diesel.** The flash point for biodiesel in its pure form is more than 300 degrees versus about 125 degrees Fahrenheit for regular #2 diesel. Although fires are not a frequent occurrence in mines, they can be devastating and diesel equipment is often involved. Biodiesel can help eliminate that concern.
- **Biodiesel reduces particulate matter significantly.** Particulate matter is suspected to be a carcinogenic material. Neat biodiesel and even biodiesel blends can help cut emissions dramatically. At a 20 percent blend level and with use of a catalytic converter, particulate matter has been shown to drop 31 percent, carbon monoxide 21 percent and total hydrocarbons 47 percent. It will also decrease sulfur emissions and aromatics.
- **Biodiesel exhaust is less offensive.** The use of biodiesel and biodiesel blends results in a noticeable, less offensive change in exhaust odor, which can be a real benefit in confined spaces. In fact, equipment operators have compared it to the smell of french fries. Users also report having no eye irritation. Since biodiesel is oxygenated, diesel engines have more complete combustion than petroleum.
- **Biodiesel does not require special storage.** In fact, in its pure form or in blends, biodiesel can be stored wherever petroleum diesel is stored, except in concrete-lined tanks. At higher blend levels, biodiesel may deteriorate natural rubber or polyurethane foam materials. Biodiesel also has a higher flash point, handles like diesel and is safe to transport.
- **Biodiesel operates in conventional engines.** Just like petroleum diesel, biodiesel operates in diesel engines. Essentially no engine modifications are required, and biodiesel maintains the payload capacity and range of diesel. Since engine changes are not necessary, neither are alterations in mining vehicles or spare parts inventories.
- **Biodiesel is healthier than petroleum diesel.** Exposure to biodiesel exhaust will not pose as great a risk to workers in confined areas because of reduced exposure to carbon monoxide and carbon particulates, a suspected carcinogen.

